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ABSTRACT

The Cognitively Oriented Preschool was implemented in West Chester, Pennsylvania as a special program to meet the needs of the increasing numbers of disadvantaged children moving into the area. This report describes the program as it was implemented, including specific daily activities as well as the various kinds of curricula used. Also included is a program evaluation for the year. Effects of the program were assessed in the following areas: parent and community acceptance; operational strengths and weaknesses; behavioral changes in participating children; and intellectual, language, and social growth in participating children. Results of the evaluation, particularly the strengths and weaknesses of the program, are discussed in detail. (SBT)

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THE COGNITIVELY ORIENTED URBAN PREKINDERGARTEN

A TITLE III ESEA FIRST YEAR REPORT

PS 007208

The West Chester Educational Development Center
110 Rosedale Avenue
West Chester, Pennsylvania 19380

August, 1973

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The success of the initial year of operation of the Cognitively Oriented Urban Prekindergarten Program is owed in large measure to: the progressive orientation of the West Chester Educational Development Center and its Director, Dr. Everett A. Landin; the cooperative participation of the Learning Research Center at West Chester State College; and the dedication, hard work and long hours of the two Prekindergarten Program teachers, Miss Shirley Grice and Mrs. Linda McNally. In addition, the cooperation of the administration of West Chester State College and the Community surrounding it as well as the parents of the participating children played no small role in making possible the accomplishments achieved to date by this program.

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INTRODUCTION

In recent years, the city of West Chester, Pennsylvania, has been the focus of an influx of low-income Black families from larger urban centers such as nearby Philadelphia, Chester and Wilmington, as well as low-income Puerto Rican families from the neighboring rural farming areas.

The growing number of children from poverty backgrounds in the West Chester Area has created serious educational problems for this moderate-sized urban community located in Pennsylvania's fastest growing county. Since research has shown that children from impoverished families enter school with a learning disadvantage which does not enable them to do well throughout their schooling (e.g. Deutsch, 1965), efforts must be made to dissipate such disadvantage before these children even enter the schools. The Educational Development Center at West Chester, designated as a State Center for Urban and Bilingual Education Studies, has been actively seeking solutions to these problems.

The Educational Development Center and West Chester State College have, over the past several years, been involved in a wide variety of developmental educational programs for children of low-income Black and Puerto Rican families aimed at elevating the educational achievement levels of these children to the point at which they are able to compete adequately within the school system. In response to expressed community needs a considerable preschool effort was undertaken in the Fall of 1969 with the above types of children to attempt to prevent the very kinds of educational problems for which remedial programs had become necessary. This effort has come to be known as the Pennsylvania Research in Infant Development and Education (PRIDE) Project. It was through extensive and

long term contact with community leaders, agencies and parents via the above project that the specific needs relating to the present program were identified.

Program Approach

Although there have been several philosophic and programmatic antecedents of the early intervention approach to educational problems of the disadvantaged (e.g. Bereiter & Englemann, 1966; Bereiter, 1967; Gordon, 1967; and Weikart, 1967), the primary source of rationale in the present Cognitively Oriented Urban Prekindergarten is derived from the Pennsylvania Research in Infant Development and Education (PRIDE) Project (Dusewicz, 1970, 1972; Dusewicz and Higgins, 1971, 1972), developed jointly by the Bureau of Research of the Pennsylvania Department of Education and West Chester State College. Beginning as early as 12 months of age with predominatly Black and Puerto Rican children, this program has significantly accelerated the overall educational development of such children so that they are operating at average, or, in some cases, above-average levels of ability by the time they reach 40 months of age.

To date a large number of these children have participated in the PRIDE Project's Early Learning Program, achieving mean gains of 20 to 35 IQ points in the first year alone. Successful gains have also been registered in the areas of language and social development as a result of the program. The curriculum utilized for this very effective early learning program provided the main thrust for the construction of an extended curriculum currently incorporated in the Cognitively Oriented Prekindergarten Program.

It was anticipated that the Early Learning Program and the Prekindergarten Program would complement each other in enhancing the intellectual, language and socio-emotional development of disadvantaged children and prevent the kind of school failure which stems from achievement deficits that accumulate upon initial school-entrance deficits.

Other ideas and goals embodied in the new prekindergarten were the products of a number of recommendations and of collaboration on the part of the parents of children in the PRIDE Project, local child care representatives involved in the West Chester 4-C Program, staff of the PRIDE Project, and staff of the West Chester and Cheyney Educational Development Centers and Colleges.

Program Objectives

The Cognitively Oriented Urban Prekindergarten forms an important link between the Early Learning Program of the PRIDE Project and the kindergarten level of the formal school system. In this regard, the principal and overriding objective of the new Prekindergarten Program is to prevent educational regression and to follow through on the Early Learning Program objectives for accelerating the overall development of the participating disadvantaged children to the degree at which they are able to compete at least adequately in the schools with those children from more advantaged homes. In achieving this goal, however, the program is directed more specifically toward achieving a number of individual objectives, some of which are outlined below:

Child Oriented Objectives:

1. Satisfactory use of listening and speaking skills at an adequate level of vocabulary development.
2. Satisfactory use of conceptual language (e.g., or, and, if, then, only).
3. Adequate development of a healthy self-concept.
4. Ability to work and play individually as well as cooperatively with other children.
5. Adequate sense of independence and self-sufficiency.
6. An increased attention span.
7. Ability to recognize physical qualities (e.g., long, short, hot, cold).
8. Wholesome attitudes toward school.
9. Ability for demonstrating creativeness and imagination.
10. Ability to count, recognize numerals, and manipulate with small mathematical sets.
11. Adequate readiness for learning to read.

Staff Oriented Objectives:

1. Sensitivity to the problems of the disadvantaged child.
2. Creativeness in teaching the disadvantaged child.
3. Increased realization of the capabilities of the disadvantaged child.

Organizationally Oriented Objectives:

1. Capability of being integrated with other programs approaching the problem from a different perspective.
2. Potential adaptiveness of the program curriculum to other programs.
3. A general non-complexity and inexpensiveness of curriculum materials and activities.

In attaining these objectives the overriding goal is to enhance the overall development of the participating children and, in the process, to focus upon building within these children the types of characteristics believed to be related to long term success (e.g. Rowher, 1971): (1) a repertory of skills for location and learning of new information and new skills; (2) a repertory of skills for problem solving; (3) a motivational system which prompts engagement in learning and problem solving on a continuing basis.

The Program is designed to provide an inexpensiveness of curriculum in order to enable practice and support for activity objectives in the home. Also, the operation of the program under the aegis of the Educational Development Center at West Chester provides a strategic point for improvement in the training of teachers for preschool and kindergarten education through a readily accessible practicum experience in an atmosphere of a continuously developing and improving curriculum. Ideally, with continued success, the Prekindergarten Program could be linked to primary level education efforts in order to provide a continuum of support for children of this type throughout the early school years.

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GENERAL PROGRAM DESCRIPTION

During the 1972-73 school year, the prekindergarten was comprised of thirty-five children from economically disadvantaged families. These children ranged in age from forty-two months to fifty-one months. All of the children had participated for two years in some capacity with the Pennsylvania Research in Infant Development and Education (PRIDE) Project. The PRIDE Project was the precursor of the Cognitively Oriented Urban Prekindergarten. It was developed jointly by the Bureau of Research of the Pennsylvania Department of Education and West Chester State College. This project was structured under the premise that early intervention would compensate for the disadvantaged child's early learning deficits incurred prior to school entrance. The children were exposed to a cognitively oriented environment which enhanced intellectual as well as social development and enriched their experiential background. The PRIDE Project has been quite successful over the past few years in its efforts to augment educational achievement, while maintaining a high motivational level in the child.

The significant gains in achievement of the children and the successful operation of the PRIDE Project manifested the need for an extended program to forestall any intellectual, social and emotional regression and to continue the high achievement and motivational levels of these children. The prekindergarten was developed as a transitional program to provide for additional cognitive growth and to equip these children with the pre-academic skills necessary to compete adequately within the formal school system.

Program Operation

The prekindergarten was operative from September to May, and classes were conducted at two different locations. The morning session was conducted at rented classroom facilities at one of the neighborhood churches in the borough of West Chester, while the afternoon session was held in the Laboratory School at the Learning Research Center of West Chester State College. Thr morning session contained children who had participated in the home-based segment of the PRIDE Project. These children had been tutored in the home for two years by an undergraduate assistant who made visitations twice-weekly for a 45-minute instructional period. The afternoon prekindergarten was comprised of children who had participated in the center-based segment of the PRIDE Project for two years and had experienced a comprehensive and intensive learning program within a controlled classroom environment. The experimental background of both groups included two years of some type of directed instruction, and, therefore, the curriculum of the prekindergarten was developed and adapted to accommodate their unique needs.

The prekindergarten was staffed by a Supervising Teacher, an Associate Teacher and several undergraduate students from West Chester State College who participated in the College Work-Study Program. The Supervising Teacher and Associate Teacher worked cooperatively in developing a curriculum and in conducting and managing the daily instructional program. Other classroom responsibilities included the supervision of the undergraduate student assistants who were fulfilling their work obligations, and various other students who were satisfying course requirements through observation or participation in the instructional program.

Participant Profile

For the thirty-five children participating in the Prekindergarten Program from the West Chester community in 1972-73, the ages ranged from 42 to 51 months, with the majority of the children born in the latter part of the year. There were twenty-three girls and twelve boys. Most of the children came from single-parent homes. The ratio of single-parent homes to two-parent homes was coincidentally the same as the ratio of girls to boys. It was found for this class of prekindergarteners, therefore, that there were twenty-three single-parent homes and twelve two-parent homes.

It was determined that in each of the boys' and girls' homes there was an average of 1.3 siblings. This average was determined from total number of siblings in the home at the time of entry into the prekindergarten rather than the family size at the time of initial enrollment in the PRIDE Project.

Since the majority of the families were of the single-parent type and these single or separated mothers would have the greatest influence on their young children, some information was gathered on the mothers themselves. The median age for all mothers at the time of enrollment in the program was 22 years. The average age was 24.5 years. The age range for the thirty-five mothers was from 18 to 46 years. The source of income for most of the families was the Department of Public Assistance. Those parents whose income was a result of employment of some kind made less than $100 per week.

PROGRAM ACTIVITIES

One of the goals of the Cognitively Oriented Urban Prekindergarten was to offer learning experiences to children with underdeveloped educational potential, and to boost the educational achievement levels of these children so that they could compete with more advantaged children in the public school system. The setting where most of this development occurred was the classroom.

The classroom, where intensive learning should take place, was free from many unnecessary restrictions. The classroom for the Cognitively Oriented Prekindergarten was a place where children grew and learned individually and continuously. The classroom was unrestrictive to learning and the children were given freedom of movement and opportunities for making responsible decisions. They were taught to function in many areas independent of adults. The way the classroom was conducted allowed the child to be responsible for himself and others. This became an accepted norm, and any child who failed in his responsibility could have disrupted the flow of activities for the class. From the time the children entered the class, to the time that they would leave, they were aware of themselves, others and the responsibilities they had with regard to themselves and others.

The program's activities were divided into two complementary domains: the general curriculum; and the academic curriculum. The daily activities schedule incorporated portions of both curricula on a regular basis.

Daily Activities Schedule

When the children entered the classroom each day they would hang up their outdoor clothing and go immediately into a free play situation. Around the room were toys, books, games, learning centers, and equipment

to which they could direct themselves. On a set signal, the children would clean the room by placing the toys and items which they had been using back into their proper places. They were to work together until the task was completed. The children then were directed to breakfast if they participated in the morning session of the program. Those children participating in the afternoon session were directed instead to large group activities at this point. After breakfast, the children had to remove their own things from the breakfast table. This was one of their social responsibilities. From breakfast they would go to a large group situation. Everyone was required to participate in large group activities. In these activities the children learned about daily occurrences which later would become integral parts of their lives. Large group instruction, among other things, included: calendar work, physical exercises, perceptual-motor activities, aesthetics, movies and role-playing. Large group activities were usually conducted in a teacher directed manner, with the children following a general set of directions either by acting out responses or by verbally responding. Each child was given the latitude to be creative and imaginative in his individual responses. The activities described above, in large group format, occurred in both the morning and afternoon sessions.

From the large group situation, the children were broken down into small groups for work within the academic areas of the program curriculum. The children were grouped homogeneously according to their abilities. interests and social development. The size of each group and the members in each group frequently differed from day to day, but all children were assured adequate coverage of all the subject areas. Every child was taught by each teacher at least once a day. According to this instructional plan

the small groups were rotated from one teacher to another and from one subject center to another. One complete rotation around the classroom allowed each group to cover all subject areas for the day.

Snack time also provided an opportunity for broadening the child's experiential background. Foods that were new and unusual for the child were often introduced, discussed, and eaten. Before snack, the children usually aided in its preparation. During snack, the children were encouraged to use all of their senses to experience the foods. Socially, the children learned that cooperative work in preparing before, and cleaning up after, snack time could be be fun as well as important in learning about responsibilities.

The period after snack was usually spent in one of several ways. Depending upon what had been scheduled for this part of the day, the children would: have a directed art period; see a movie; play a game; paint with finger or tempera paints; color; play with clay; listen to a story; create with craft materials; dance; or go individually to learning centers. This time was used to give the children opportunity to unwind after the active instructional day. Usually toward the end of this period and just before the children would prepare to go home, the day's events and the new discoveries of the day were discussed and reflected upon. This reiteration helped the children and teachers to evaluate the day and to view the day's events in perspective.

The General Curriculum

Both the general curriculum and the academic curriculum for the prekindergarten were essential for the positive development of the children in the cognitive, affective, and psychomotor domains.

The activities planned for the prekindergarten child were based on the child's needs and the projected goals which it was anticipated the child would achieve. The needs were those which had been exhibited by the child in relation to his abilities, interests, wants and attitudes. Goals were delineated with respect to what would be beneficial to the child in helping him to build a sound educational foundation for enabling him to become an integral and contributing part of society.

The goals and objectives for all the activities taken as a whole were general. For individual activities, certain objectives were specified (i.e. a particular behavior was expected to be displayed and/or changed). It was understood that each child had his own rate of development and what may have been expected earlier for one child may come later for another.

The curriculum for the prekindergarteners was broken down into two parts. One part consisted of the academic areas. The subjects covered in this area were Reading, Math, Science, Social Studies, and Health & Safety. The subjects of Reading and Math were covered everyday while the others were covered throughout the week on designated days.

The second part of the curriculum was called the general curriculum.

The activities found in the general curriculum included those relating to: art; music; small and large motor exercises; classroom operations; colors; shapes; left to right progression; and time and space concepts. These activities were devised to accentuate the skill areas of sensory-motor coordination, auditory discrimination, visual discrimination, and conceptual-language skills. The skill areas of the general curriculum were covered at varied times during the school day and school year. This was unlike the academic subjects which were covered at specific times during each session on a scheduled basis.

The general curriculum skill areas were taught through finger play, songs, games, physical activities, art, role-playing, movies, records and books. The medium for instruction was usually either free play, small groups, large groups, or learning centers.

One section of the general curriculum, "Classroom Responsibilities and Introductory Classroom Activities," dealt explicitly with areas which would eventually become an integral part of the children's daily lives. This section covered calendar readings, weather interpretations, physical activities, and time and space concepts. Also, this section suggested areas where children could be most independent and most responsible for themselves and their classmates. It was deemed an important aspect of the general curriculum that opportunities be provided for the children to develop responsibility and to assert themselves as individuals.

The Academic Curriculum

Reading: The reading curriculum was developed for the prekindergarten child who had completed two years with the PRIDE Project. For two years the child had undergone the rigors of a specialized readiness program.

He had spent hours developing and strengthening his cognitive skills, through free play as well as directed play. He had manipulated variables of both a concrete and abstract nature. He had been given the opportunity to relate to his environment and to relate his experiences through verbal interaction. He was surrounded with the spoken word and had been introduced to the written word. The child was ready to attach written symbols to what he had seen, said or done. He was ready to put meaning to the written word.

A whole-word approach was utilized in beginning systematic reading instruction. The child was given meaning and illustrations for a word before he was shown the written word. The word was used conversationally while explaining its pictorial representation and meaning. Once the child could recognize the pictorial representation of a particular vocabulary word, then the written symbol was presented to the child. Fixing the words in the child's mind came from repetition through a variety of activities and correct usage of the words. Other techniques for teaching beginning reading were as follows:

Word Form Clues - words having distinctive shapes for recognition.

Expectancy - reading from familiarity.

Conceptual Clues - recognition from contextual meeting.

Sight Word - look/say method for basic vocabulary.

Activities were developed around these techniques and were incorporated into an overall curriculum for teaching reading to the prekindergarteners.

Math:

Daily, the young children are confronted with quantitative measures, qualitative measures, numerals, numbers, and sets of items. Mathematical confrontations cannot be avoided. The children must learn to deal with these mathematical concepts if they are to understand their environment. The math curriculum was developed to help the children to identify, understand, and work with these concepts. They were given activities where they were required to use quantitative skills in actual situations. They learned how to identify sets and how to assign numerals which appropriately represent the quantitative contents of those sets. The curriculum's objectives allowed for a great deal of manipulation of real objects and generally followed the dictum that children learn best by doing.

Social Studies:

Each child was exposed to a Social Studies curriculum that was designed for the purpose of developing within the child an awareness of his present and future relation to his community as a whole. The child is aided in understanding his immediate environment, his community in relation to the town in which he lives, the town in relation to the state, the state in relation to the country and so on. The Social Studies curriculum was concerned about the individual child, his role in the world community, and helping him to understand that role. The curriculum offered first-hand experiences, field trips, and activities that allowed the child to deal with, and relate to, his immediate social environment.

Science:

The science curriculum was developed with the recognition that young children are indeed curious about their physical and biological environment. It was designed for the child who is always asking "why," the child

who enjoys learning through doing, and who prefers to investigate new experiences in an active rather than passive manner.

Activities for the science curriculum were set up so that explanations of material phenomena were relayed to the children through discussion and class projects. The child was allowed to ask questions and to explore each area independently. The child was exposed to physical and biological relationships in which he was given the opportunity to manipulate the relevant variables in an effort to become more aware of his environment. Some topics of study included: plant growth, the development of the chicken embryo, the origins of weather, and the characteristics of magnetism.

Health and Safety:

Development of the health and safety curriculum was centered around the child and the importance of his responsibility to maintain a healthy environment for his personal development. The activities of this curriculum provided the child with tasks which were designed to help him in recognizing and fulfilling his basic self-needs. Some topics of study included in the curriculum were: personal care and grooming, playground safety, and rules of safety when playing in the neighborhood.

PROGRAM EVALUATION

Evaluation of the Cognitively Oriented Urban Prekindergarten Program was undertaken from a variety of different perspectives. It was deemed important to assess the effects of the program on the following areas: (1) Parent and community acceptance; (2) Operational strengths and weaknesses; (3) Behavioral changes in participating children; and (4) Intellectual, language and social growth of participating children as measured by standardized tests.

Parent Cooperation and Community Support

Prior to their prekindergarten year, the parents of the prekindergarten children had participated in the PRIDE Project's Early Learning Program, Levels I and II. These two years of association with the Project had helped the parents to understand, evaluate, and be a part of their children's experiences. By the time the children started prekindergarten, the parents were well acquainted with the operation of the Project and were pleased with the progress of their children.

From the first time that the child was enrolled in the Project, the parents received an open invitation to visit the center and to talk with the teachers. Each year the invitation was repeated and the year of the Prekindergarten Program was no exception.

This year the parents were asked to participate in, and to add to, the learning experiences of their children. They helped with supervision of the children on field trips. They added to the festivities of birthday parties, and they came often to watch the children's performance in the classroom.

The parents of the participating children, and the community in

general, have responded well to this program and have been very supportive of it. Many expressions of appreciation and encouragement have been received during the year.

Program Strengths

The two Prekindergarten teachers were highly qualified and possessed a profound understanding of the nature of the participating child and his background. These qualities aided them in the development of their lesson plans and in instructing the children. The teachers were very much aware of the children's past experiences in the Early Learning Program of the PRIDE Project and were well-acquainted with the children's extended families.

This knowledge assisted the teachers in their efforts to group the children appropriately for various instructional purposes, in eliciting from the children their best performance and in encouraging them to develop to their fullest capabilities. In addition to small and large group activities, each child received a certain amount of individualized instruction. The individualized instruction permitted the child to advance at his own rate of progress. The child was not pressured to fulfill behavioral goals. Instead the child was guided and praised for his efforts as well as his successes in various curriculum activities. This approach to instruction promoted a positive and healthy self-concept in the child.

The children were also encouraged to work independently. Learning centers and activities during free play provided the child with the opportunity to express himself imaginatively and creatively. This independence required that the children accept certain responsibilities which in turn helped to foster self-discipline. They had to learn that in the classroom at certain times they were free to do whatever they wished as long as they did not interfere with the rights of their

classmates, while at other times there were set procedures to be followed. The children behaved remarkably well under these circumstances, and they seemed to develop the kinds of responsibilities that are usually expected at older age levels.

The children of the prekindergarten also enjoyed success in both reading skills and mathematical skills. A great deal of time, material and effort was devoted to the reading program by the staff of the prekindergarten. The Total Environment Room was used extensively for reading instruction. In this room, there was a 360 degree projection surface on which pictures and words were superimposed. Audio-visual instructional programs were developed for this room in an effort to utilize a whole word approach to the teaching of reading. The children would play various reading games using audio-visual aids inside the circular area bordered by the screen. The children enjoyed these types of reading activities. In addition the children were exposed to experience charts, card games, bingo and several other activities designed to develop their reading skills. The children's enjoyment of the games enhanced further interest in words and aided in the development of positive attitudes toward reading. All of the children were quickly able to identify their written name. Several children could identify twenty or more simple words and many children were able to read simple sentences, the content of which they could relate to their own experience. Some of the children could read compound sentences, and two children were reading even more extensively. The children derived enormous satisfaction from being able to identify words, and their parents seemed to reinforce their success.

Mathematics was another successful subject area in the Prekindergarten

Program. The children received extensive individualized training as well as small and large group instruction. Many activities were devised to enhance the learning of mathematical concepts. Through these activities the children were able to learn to count, recognize numerals and to understand the physical quantity that each numeral symbolized. Several children were able to rote count to twenty and identify sets of objects numbering from ten to twenty. Some children were even capable of working with numbers greater than twenty and were able to understand work with more complex mathematical symbols such as greater than (>) and less than (<). The children were aware of the distinction between quantities and qualities. They were able to understand that numerals were symbols for quantities and that various other symbols such as (>) (<) represent quantitative relationships. In addition to numeral recognition, the children were successful in many attempts at set recognition. When presented with sets of objects less than ten, they were taught to identify the set without counting the individual members of the set. Some children consistently performed this task with as many as eight members in a set. All the children, as in reading, enjoyed some degree of success in the area of mathematics.

Other positive outcomes of the Prekindergarten program occurred in the subject areas of Health and Safety, Social Studies, and Science. The vocabulary of these children was increased greatly through their exposure to the multitude of terms relating to these subject areas. The children were exposed to such words as "photosynthesis," "root," "seed," "embryo," and "incubator" via discussions and instruction on plant growth, developmental stages of the chicken embryo, and other areas of study. Through these subject areas, the children also became more

aware of their bodies and of their senses. The children were taught about safety and about matters of personal health, and hygiene and they were encouraged to put these principles to use both within and outside of the school facilities.

An important emphasis in the Prekindergarten Program was to create an atmosphere within the classroom which was both conducive to learning and uninhibiting to individual freedom of expression. This type of atmosphere together with the individual success of each child, induced positive and instructive attitudes toward learning and toward the total school experience. The children enjoyed school and were anxious to attend class and participate in the classroom activities.

Program Weaknesses

During the first years of operation of the Prekindergarten, accompanying the program's many strengths were a few weaknesses as well. One such weakness was the separation of the two classroom facilities. The morning session was conducted in a large classroom at a neighborhood church, facilities for which were rented by the Prekindergarten Program. The afternoon session, on the other hand, was conducted at the Laboratory School of the West Chester State College Learning Research Center. Instructional material frequently had to be transported from one location to the other. The facilities at the Learning Research Center, from an educational standpoint, were superior to those at the church in many respects. The church was also situated at some distance from the college which often caused transportation difficulties for any undergraduate student workers who may have been assigned to the program as teacher assistants.

Another problem encountered was the transportation of the children to and from school. A station wagon had to be rented from a local automobile dealership. Repairs to the car had to be made during the school day which sometimes interfered with the daily schedule. In addition, it was difficult to find reliable drivers to work the unusual hours required in transporting the participating children. For both the morning and afternoon sessions, provisions were made to transport the children in two trips so that the safest possible conditions could be maintained while the children were in transit to and from the classroom. This tended to be a very tedious and time-consuming, though necessary, process.

Another problem which at times confronted the Prekindergarten Program was the inconsistency of some of the undergraduate teacher assistants. Occasionally undergraduate assistants did not inform the teachers of an upcoming absence, and frequently the daily plans or routine had to be rearranged or totally discarded as a result of changes in the child-teacher ratio.

There were also some weaknesses in curriculum. More readiness training could have been provided for the morning prekindergarten group. These children were lacking experience in the academic and social areas. Many of these children had never been exposed to the structured social situation in the classroom. Therefore, instruction had to be modified to accommodate these children's needs. From the first year's operation, it became apparent that even more alterations in instruction and curriculum were necessary due to the differences in the educational program experienced by these groups during the immediately preceding two-year period. The morning prekindergarten children required additional readiness training and greater social direction than their counterparts

in the afternoon session.

Other problems concerning instruction and curriculum were minimal. There were initial problems with daily planning and time allotment which were the result of need differences between the morning and afternoon groups of children. These problems were alleviated, however, before too long into the school year.

Observed Behavior Changes

A number of children participating in the Prekindergarten Program exhibited marked behavioral changes of a positive nature. That these changes were generally a continuation of a pattern of improvement begun in the earlier two years of the PRIDE Project makes them no less startling. In order to gain more of an insight into the kinds of behavioral changes which occurred as a result of the program, parents of the participating children were interviewed at the end of the program year and asked the following question:

"Often a parent notices changes in her child which she thinks are a result of going to school. Sometimes a child speaks new words. Sometimes he makes clever use of his playthings. Sometimes, when before he was shy, he now plays better with other children. What changes that you saw in your child during the year do you think occurred because of school?"

Listed below, under the first names of the participating children, are the various responses to this query which their respective parents offered during the interview session. Although not all parents were able to be so interviewed, it is believed that those whose remarks are included here are a representative sampling.

ARTIE: "He talks more. Sometimes he plays with other children. Sometimes he doesn't. He seems to know alot - his colors, numbers. He can put puzzles together. He matches cards. He is a little more active now. He knows more than other children do. Artie likes to play by himself alot. He'll try to show other children how to do things. He talks more and clearer."

BRIAN: "Alot, he really progressed alot - his colors, numbers, alphabet. He's talking better. He knows more words. He shares more. He's always counting and says his alphabet. He was shy at first and now he's not. Brian knows more. If he has blocks he tries to show other kids how to build things. He tries to teach them how to draw dogs and houses. He seems more mature than other kids his age."

CURTIS: "He talks more and he talks better. He can count to 20 and he knows his ABC's. He sings all the time. His attention span is longer. He recognizes words - from the workbook, and he associates things. Also he learned responsibility when he had to do things. He enjoyed it and was upset when he had to stay home."

DAWN: "She seems to know everything. She knows words, colors, games on TV - she can play them. She tries to read to her sisters. She can count. She plays all the time and gets along well with other children. Most of the time she plays school. She teaches songs she learned in school - if they want to play a game she already played in school she tries to teach them. She names everything - like instead of saying 'that' - she says the name of it. She'll say so and so had that color dress on and it was pretty. When she gets dressed she tells me what she wants to wear."

GARY: "He talks more - he talks a lot. He gets along better with kids, and he plays more. Before he threw his toys around, now he plays better. He sings, he knows how to count, his colors - he also knows words in a book. He's learned how to put the numbers in order - not all of them, but some. That's about it really - oh he's more interested in TV, too. He's more active - he goes on swings now. I think reading the words helped him. He likes the books, and he recognizes the words. Also playing with kids - he plays with them better. He tries to teach them songs, days of the week, and numbers and things."

GLORIA: "Gloria Ann is too fast for a child her age. She makes little faces that she probably learned from kids in school. She asks many more questions than she used to ask. She has to be boss of everything - if things don't go her way then she doesn't want to play. Sometimes she can act very grownup and other times she acts like a baby. She told about the eggs and the chickens. She said the word, 'embryo.' She told about how many days it would take to hatch the eggs. She told about how the lightbulb was supposed to warm the eggs to make them hatch. She told about the flowers and how you're supposed to put water on them to make it grow."

JENNIFER: "She knows her colors and numbers. She is more grownup and independent. She can dress herself and she doesn't want any help. She loves books and coloring. She especially loves story books. She plays more creatively with them. She likes more grownup toys. She likes Barbie dolls rather than baby dolls. She shares very well. She was a little shy and now she is very outgoing. It's amazing, but I think she is up to the level of a six-year-old child. She didn't stay a baby long. She loves to show people how she can count. She can tell stories from her books. She has a good memory. She's been around a lot of kids that went to Head Start and even though they're older, she can do just about

everything better than they can. She shows them how to do things. She jumps rope and tries to ride a two wheel bike. Learning her alphabet, colors and numbers helped her because she says them all the time. She talks very well. She can talk just like my third and fourth grader - she uses good sentences."

JULIE: "She talks more. She memorizes beautifully. She also can distinguish things. If she hears a song on TV, she'll know what commercial it is. She is very observant. She knows her colors and her numbers. She really amazes me at times. She shows her cousins how to do things. She can distinguish just about everything on Sesame Street. She says her ABC's. She gradually developed from the very beginning."

LAMONT: "He picks up more - his numbers, the alphabet, colors. He plays more - he's more friendly too. He was shy before and now he's friendlier. He sings, too. He learned new words, too, like 'incubator' which he learned at school. If I'm cleaning - he'll hand me objects and tell me what they are. He learned his numbers and the alphabet, and this especially helped him learn to write his name."

SCOTT: "Yes, mostly in his behavior with other children, I guess because he's around them more at the center. He talks a lot better and he is using bigger words. He's got an erector set and now he tries to build things with it. He draws things and he's coming along good. He's developed a lot. He seems to have more sense than other children. He can express himself better. He tries to show his sister how to do things. He tries to read. He knows his numbers and colors more than they do. His coordination is a lot better - he can skate now."

SHAWN: "She speaks more clearly - more understandably. She learned new words and she talks in sentences. She seemed withdrawn when she started - now she's more outgoing. She knows all her numbers, colors, and ABC's. She can even read words off flashcards. She's more interested in learning and school - she wants to learn now. She acts a little more mature, too. She wants to do more for herself - like dress herself. She's more active in exercises. She likes to be the leader - like when playing house - she wants to be mother or teacher. She likes to teach other children everything."

SHAWONNETTE: "She has learned to count better and now she talks better. She can dress herself and bathe herself, too. She even spells her name a little. She shares a lot more, even her food. She answers the phone. She was shy before and now I can leave her with anybody. I think she gets too friendly. She knows her numbers from one to twenty. She knows all of her colors. She sings and tries to make up her own songs. She can remember a story you read to her. She told us about the time they were going to raise chickens and how they were going to hatch."

VAWN: "Yes, she was different from playing with other kids. She learned counting and colors. She shares better. She was kind of shy at first and now she's more outgoing. She is more grownup now that she started. She knows how to tie her shoes. She washes herself and dresses herself. She only plays with the girl next door and she's in first grade."

VERNON C.: "He is much smarter now than most other children. When they

are in the store, he'll tell them not to pull things off the shelves. He knows that children shouldn't play in the street and tells them to get out when they are. He'll tell this little boy that he has his shoes on wrong. He'll tell me when he has a verse to learn and ask me to help him with it. He really learned just about what school would be like. He was really disappointed when they were having transportation problems - he thought he was never going to school."

VERNON D.: "He can do anything. He can count. He knows his colors. He can describe anything he sees. He can name any animals. He can say his alphabet and he recognizes most of the letters. He plays among children better - he shares well. He's good in almost everything, out of school, too. He runs errands. There's nothing he can't name. He can really decribe. He's always teaching somebody something. He's always trying to teach songs and rhymes. He's not a bit hesitant about anything. If there's someone he doesn't know, he'll make himself known."

Test Results

In order to objectively assess the effects of the Prekindergarten Program on the overall growth and development of the participating children, a large battery of assessment measures was administered to each child during the two-week period immediately preceeding the start of the program and again during the two-week period immediately following the close of the program year. The tests covered the developmental areas of intelligence, language, and social growth, as well as the more specific curriculum areas of reading and mathematical skills. Following is a list of the specific tests utilized in this pre-post evaluative design:

Development Areas

1. Slosson Intelligence Test (SIT)
2. Peabody Picture Vocabulary Test (PPVT)
3. Verbal Language Development Scale (VLDS)
4. Vineland Social Maturity Scale (VSMS)

Curriculum Areas

5. Gates-MacGinitie Reading Test (GM)
6. Preschool Assessment of Reading Test (PAR)
7. Preschool Assessment of Mathematics Test (PAM)

In terms of overall intellectual, language, and social growth, test results in these developmental areas are presented in Table 1. In this table, both the means and standard deviations (SD) for each of the testing sessions are given. As can be seen from comparisons between pretest means and posttest means, on the average, the Prekindergarten Program participants gained developmentally in the areas of mental growth, hearing vocabulary, general language ability, and social

skills. The results of a correlated t-test between pre- and posttest means, indicate that all these gains were found to be statistically significant at the .01 level, as well.

The mean gain in mental age from pre- to posttest on the Slosson Intelligence Test, as derived from the table, was calculated to be 22.37 months. When apportioned over the seven-month program period, this represents a mean gain in mental age of about three months for every month in the Prekindergarten Program, or three times the normal intellectual growth rate.

In terms of hearing vocabulary, as measured by the Peabody Picture Vocabulary Test, the mean raw scores reported in the table, when converted to representative age levels, show the children beginning initially at about the 42 month level and ending at the 51 month level. This yields a gain of nine months in hearing vocabulary over the seven-month program period, for a rate of gain about 1.3 times the normal.

On the Verbal Language Development Scale, the mean raw score of 27.44 on the pretest when converted to an equivalent language age reveals that the children were operating at the III-IV year level at the beginning of the year, while the posttest score of 34.25 indicates that they had progressed to the initial stages of the V-VI year level by the end of the year.

Gains in social development, as measured by the Vineland Social Maturity Scale, were also substantial. The raw score values given in the table indicate that the children progressed from a mean social age equivalent of about 4.3 to that of 5.9 years of age. This represents a gain of 1.6 years, or 19 months, in social age which is equivalent to a rate of gain of about 2.7 times the normal.

TABLE 1

Pre-Post Test Results in Developmental Areas

Measure[1]	Pretest (Mean)	(SD)	Posttest (Mean)	(SD)	t
SIT	51.46	7.01	73.83	10.00	17.92**
PPVT	35.72	8.58	44.42	11.51	5.29**
VLDS	27.44	3.13	34.25	2.57	12.74**
VSMS	51.92	3.95	60.42	2.74	14.70**

[1]Scores given for SIT are mental ages in months. All others are given in raw score form.

**$p < .01$

Turning next to a consideration of what may be termed the curricular areas, the results of testing here are presented in Table 2. As can be seen from this table, gains from pre- to posttest were evidenced in both the reading and mathematical skills areas. Correlated t-tests comparing pretest and posttest means further indicated that these gains were of statistical significance at the .01 level.

Children's scores on the Gates-MacGinitie Reading Test increased from about the tenth percentile at the start of the Prekindergarten Program to the twenty-first percentile at the conclusion of the program year. This means that the participating children, at the end of their prekindergarten year, ranked at the twenty-first percentile in reading readiness when compared with children nationally who were a year their senior and who were just beginning first grade. On the Preschool Assessment of Reading Test, which measures both word recognition and comprehension, a similar gain was evidenced.

The Preschool Assessment of Mathematics Test was designed to measure understanding of a wide variety of quantitative and qualitative mathematical concepts. The pre-post gain of about 22 points on this test, out of a possible 100 points, represents nearly an eighty percent improvement over the pretest score for the participating children in the Prekindergarten Program.

Table 2

Pre-Post Test Results in Curriculum Areas

Measure[1]	Pretest (Mean)	(SD)	Posttest (Mean)	(SD)	t
GM	9.56	7.33	21.05	18.41	4.67**
PAR	1.36	5.71	15.19	16.27	6.36**
PAM	28.31	11.69	50.47	16.86	9.16**

[1]Scores given for GM are readiness percentile scores based on a sample beginning first grade. All others are given in raw score form.

**$p < .01$

Conclusions

By all standards, the initial program year of the Cognitively Oriented Urban Prekindergarten must be judged a success. It gained a high degree of community support and parent interest and cooperation. It engendered a number of positive behavioral changes in the participating children, and the intellectual, language and social growth of these children was significantly enhanced as a result of the program. Good results speak for themselves.

While many questions have been answered with respect to the effectiveness of the Cognitively Oriented Prekindergarten, a number of additional questions have been raised by these findings. It should be noted that the two prekindergarten classes involved in the program differed markedly in terms of the kind of preschool educational experiences to which they had been exposed during their immediately preceding two-year period of enrollment in the PRIDE Early Learning Program. No attempt has been made in this report to partial out the effects of the Prekindergarten Program on either of the groups independently. Thus, the question of differential effectiveness of the Prekindergarten Program on a group of children having experienced two prior years of center-based preschool instruction as opposed to a group having received two years of home-based instruction remains unanswered. This undoubtedly will be a subject for further analysis.

In addition, there is the simple fact that the participants in the prekindergarten did actually undergo some form of preschool educational training during the two-year period immediately preceding their enrollment in the Prekindergarten Program. Although this represents a highly desirable continuity of "compensatory" educational programming for these children from low-income families, there are no definitive indications as to whether or

not this Prekindergarten Program would be as effective with children who have had no formal educational programming prior to their prekindergarten experience. Thus, in providing for what may approach the ultimate in preschool program continuity, some generalizability of the results may have been lost as a consequence.

It is anticipated that future program years will provide additional support for the encouraging results presented here, and it is hoped that perhaps replications of this program may be instituted by other educational agencies, elsewhere in the State or Nation, in order that generalizability of these findings to other settings and conditions may be more adequately assessed.

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